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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,548	10/07/2004	Hideki Kono	Q81593	6371

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EXAMINER	
HU, HENRY S	
ART UNIT	PAPER NUMBER
1713	

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/501,548	KONO ET AL.	
	Examiner	Art Unit	
	Henry S. Hu	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Priority document of 12-8-2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3 pages*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. It is noted that this application is **a CIP of 10/046,703, now US Patent No. 6,709,464 B2**. Applicants' two **IDS** filed on July 16 and November 18, 2004 were both received. **Claims 1-11 are now pending** with two independent claims (Claim 1 and Claim 3). An action follows.

Priority

2. This application repeats a substantial portion of prior Application No. **10/046,703**, filed on January 17, 2002, and adds and claims additional disclosure not presented in the prior application. The Examiner has not found the support for **Claims 1-2 and 5-11** inside the parent application regarding the power factor of X. Therefore, **only the priority date of January 17, 2003 (PCT/JP03/00331) is granted.** Should applicant desire to obtain the benefit of the filing date of the prior application, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78. It is noted Claims 3 and 4 are rejected with statutory type DP as following.

Double Patenting

3. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same

invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

4. *The limitation of parent* ***Claim 1*** *of present invention relates to a fluorine-containing copolymer from* ***tetrafluoroethylene*** *(70-95 wt%),* ***hexafluoropropylene*** *(5-20 wt%) and* ***optional perfluoro vinyl ether*** *(0-10 wt%). The copolymer has (A) a* ***melt flow rate*** *of 30 (g/10 minutes) or more, (B) a* ***volatile content index*** *of 0.2 wt% or less, and (C) a* ***stress relaxation modulus*** *G(t) (unit: dyn/cm^2) which satisfies the following formula at t = 0.1 second when measured at 310 °C:* $G(0.1) > 7 \times 10^6 \times X^{-1.62} - 3000$ *where X is the melt flow rate (unit: g/10 minutes). Other parent* ***Claims 3*** *relates to the copolymer of Claim 1 but with the factor for X is –1.6143. See other limitations of dependent* ***Claims 2 and 4-11.***

5. Claims 3 and 4 are rejected under 35 U.S.C. 101 as claiming the same invention as that of Claims 1 and 4 of US Patent No. **6,709,464 to Kono et al.** (Application No. **10/046,703**). This is a double patenting rejection.

Parent Claim 3 and its dependent Claims 4 of present invention relate to TFE/HFP and/or PVE copolymers of Claim 1 but the powder factor for X is –1.6143.

It is noted that this application is **a CIP of 10/046,703, now US Patent No. 6,709,464 B2**. In a close examination, it is found that the limitations of **Claims 1 and 2** of US Patent No. **6,709,464 to Kono et al.** (Application No. **10/046,703)** are **exactly the same as** (reading on) **Claims 3 and 4** of present invention.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2 and 5-11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-9 of US Patent No. **6,709,464 to Kono et al.** (Application No. **10/046,703)** in view of Blair (US 5,703,185).

This is an obviousness-type double patenting rejection. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

7. **Parent Claim 1 and its dependent Claims 2 and 5-11** of present invention relate to TFE/HFP and/or PVE copolymers of Claims 1-9 of US Patent No. **6,709,464 to Kono et al.** (Application No. **10/046,703)**. It is noted that all the involving copolymers have the following properties: (A) a **melt flow rate** of 30 (g/10 minutes) or more, (B) a **volatile content index** of

0.2 wt% or less, and (C) a **stress relaxation modulus** fits the G(t) equation. In a very close examination, the only difference is on the powder factor of X. Therefore, Kono (464) is silent about the powder factor for X being –1.62 (a change from –1.6143).

Blair teaches that in the course of making copolymers of TFE/HFP/PVE to be melt extruded or melt draw (column 1, line 19-20; column 2, line 16-17) at higher rate, it would be advantageous to **prepare copolymers having a higher stress relaxation so as to have less or no stress built-up** (abstract, line 1-4; column 2, line 12-25; column 1, line 19-20). By doing so, the products (TFE/HFP/PEVE is better than TFE/HFP/PPVE) would exhibit no melt fracture and would also have good flex life (column 2, line 20-23).

8. It is noted that when the powder factor for X (melt flow rate) is changed from -1.6143 to –1.62, the stress relaxation modulus becomes lower but with only a little difference. Therefore, it is obvious that **most of** the G(0.1) value of current application is overlapping with the G(0.1) value of US Patent No. 6,709,464 to Kono et al. (Application No. 10/046,703). Due to the fact that the stress relaxation modulus is only slightly lower, one would expect that same or similar results would be obviously found as taught by Blair in view of the degree of stress built-up. In light of the fact that copolymers made from Kono (464) and current application (A) are containing the same monomers including TFE, HFP and PVE, (B) may be obtained through free radical induced emulsion polymerization and the like, and (C) both particularly have stress relaxation modulus in higher range, both copolymers would therefore be obvious to have the same or similar properties (good flex life and no melt fracture) as taught by Blair.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-2 and 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. **6,709,464 to Kono et al.** (Application No. **10/046,703)** in view of Blair (US 5,703,185).

Parent Claim 1 and its dependent Claims 2 and 5-11 of present invention relate to TFE/HFP and/or PVE copolymers of Claims 1-9 of US Patent No. **6,709,464 to Kono et al.** (Application No. **10/046,703)**. It is noted that all the involving copolymers on both sides have

the following specific properties: (A) a **melt flow rate** of 30 (g/10 minutes) or more, (B) a **volatile content index** of 0.2 wt% or less, and (C) a **stress relaxation modulus** fits the G(t) equation. In a very close examination, the only difference in Claim 1 is on the powder factor of X. Therefore, Kono (464) is silent about the powder factor for X being –1.62 (a change from –1.6143).

Blair teaches that in making copolymers of TFE/HFP/PVE to be melt extruded or melt draw (column 1, line 19-20; column 2, line 16-17) at higher rate, it would be advantageous to **prepare copolymers having a higher stress relaxation so as to have less or no stress built-up** (abstract, line 1-4; column 2, line 12-25; column 1, line 19-20). By doing so, the products (TFE/HFP/PEVE is better than TFE/HFP/PPVE) would exhibit no melt fracture and would also have good flex life (column 2, line 20-23).

11. It is noted that even the powder factor for X (melt flow rate) is changed from -1.6143 to –1.62, the stress relaxation modulus would become different but with only a little lower. The key point is that the new number for stress relaxation modulus would still in the higher range. Therefore, it is obvious that **most of** the G(0.1) value of current application is still overlapping with the G(0.1) value of US Patent No. 6,709,464 to Kono et al. (Application No. 10/046,703). Due to the fact that the stress relaxation modulus is only slightly lower, one would expect that same or similar results would be obviously found as taught by Blair in view of the degree of stress built-up. In light of the fact that copolymers made from Kono (464) and current application (A) are containing the same monomers including TFE, HFP and PVE, (B) may be

obtained through free radical induced emulsion polymerization and the like, and (C) both particularly have stress relaxation modulus in higher range, both copolymers would therefore be obvious to have the same or similar properties (good flex life and no melt fracture) as taught by Blair.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to copolymers of TFE/HFP and/or PVE have the following properties: (A) a **melt flow rate** of 30 (g/10 minutes) or more, (B) a **volatile content index** of 0.2 wt% or less, and (C) a **stress relaxation modulus** fits the G(t) equation:

Duchesne et al. (US 6,489,420 B1) discloses the preparation of a **tetrapolymer of TFE, VDF, HFP and PPVE having improved properties** (abstract, line 1-9; column 1, line 15 – column 2, line 3). Although melt point and MIT flex life cycles are reported and may be in the claimed range (column 3, line 11-15; see Table 2 on column 10, line 50-60), the **ratio of repeating unit in the tetrapolymer, which is quite different from the claimed terpolymer in structure, as shown in Table 1** (see column 10, line 28-60) **is obviously outside the claimed limitation** of present invention. Additionally, volatile content index and the claimed stress relaxation modulus are not disclosed at all. Therefore, Duchesne fails to teach or fairly suggest the limitation of present invention.

13. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Henry S. Hu

June 7, 2005

TATYANA ZALUKAEVA
PRIMARY EXAMINER